

REMARKS

I. INTRODUCTION

Claims 2, 4, 6 and 9 have been canceled, without prejudice, and therefore claims 1, 3, 7, 8 and 10 are pending in the present application. Claims 1 and 10 have been amended to clarify the subject matter recited therein. No new matter has been added. Reconsideration of the present application is requested.

II. REJECTION OF CLAIMS 1-10 ON THE GROUNDS OF OBVIOUSNESS-TYPE DOUBLE PATENTING

Claims 1-10 stand rejected under the judicially created doctrine of obviousness-type double patenting over claim 16 of commonly assigned U.S. Patent No. 6,428,120 to Holl, filed in the U.S. on October 17, 2000. It is respectfully submitted that the pending claims are not obvious over the subject matter recited in claim 16 of the '120 patent, for at least the following reasons.

Claims 1 and 10 of the present application relates to limiting the application of a braking force or braking function to a maximal value when the vehicle is at a standstill. (The remaining pending claims depend from claim 1.) In accordance with the example embodiments of the present invention, the braking force may be limited to a level that keeps the vehicle at a standstill. That is, the driver's intent (manifested by, for example, pressure applied by the driver to the brake pedal) may be implemented only to the extent necessary to keep the vehicle at a standstill. This may result in, for example, less wear on brake system components, reduction/elimination of noise, etc.

The subject matter of claim 16 of the '120 patent does not render obvious this subject matter. In accordance with claim 16, a brake pressure is maintained independent of a degree of actuation of a brake pedal when the vehicle is detected to be in a standstill. A braking force is reduced when, for example, a predetermined amount of time has elapsed. Also, a braking force is reduced when a skidding condition is detected. It is respectfully submitted that claim 16 does not suggest limiting the application of a braking force to a maximal value when the vehicle is at a standstill.

For at least the foregoing reasons, it is respectfully submitted that the subject matter of the pending claims is not obvious over claim 16 of the '120 patent. Withdrawal of the rejection of claims 1-10 under the judicially created doctrine of obviousness-type double patenting is, therefore, requested.

III. REJECTION OF CLAIM 4 UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claim 4 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 4 has been canceled, without prejudice. Thus, the rejection of claim 4 should now be withdrawn.

IV. REJECTION OF CLAIMS 1-4 and 6-10 UNDER 35 U.S.C. § 102(b)

Claims 1-4 and 6-10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,053,584 to Schunck (Schunck). As an initial matter, claims 2, 4, 6 and 9 have been canceled, without prejudice. It is respectfully submitted that none of claims 1, 3, 7, 8 and 10 is anticipated by Schunck, for at least the following reasons.

Claim 1 recites, inter alia, the following:

applying the at least one of the braking force and the braking pressure as a function of the desired braking operation; wherein the applied at least one of the braking force and the braking pressure is limited to a maximal value when the vehicle is at a standstill.

It is submitted that Schunck does not disclose limiting the application of a braking force or pressure to a maximal value when the vehicle is at a standstill. While Schunck mentions other conditions for modifying braking force and/or pressure, a standstill of the vehicle is not one of them. In particular, Schunck states that “in step 104 it is checked whether the conditions for initiating braking force reduction (smart stop logic) are present. In an exemplary embodiment there are, as mentioned previously, the reference speed dropping below a threshold value VREFSS, the braking pedal stroke dropping below a threshold value SPEDSS, the braking command . . . being stationary, and no ABS intervention being present.” Schunck, col. 4, lines 19-27 (emphasis added). It is thereafter stated that all of these conditions are required to start the smart stop logic. Schunck, col. 4, lines 32-25. According to this passage, a standstill, i.e., VREF=0, is not a trigger for an intervention of the smart logic, but rather, the triggers are a combination of parameters indicating a drop in speed and brake pressure below threshold levels.

For at least this reason, it is respectfully submitted that Schunck does not disclose each of the features of independent claim 1. Claims 3, 7 and 8 depend from claim 1. Accordingly, the arguments presented above in connection with Schunck and claim 1 apply equally to claims 3, 7 and 8.

Since independent claim 10 recites features analogous to those discussed above of claim 1, it is patentable over Schunck for at least the same reasons given above with respect to claim 1.

Accordingly, it is respectfully submitted that claims 1, 3, 7, 8 and 10 are patentable over Schunck, and withdrawal of the rejection is, therefore, requested.

V. **REJECTION OF CLAIMS 1-10 UNDER 35 U.S.C. § 103**

Claims 1-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,332,654 to Yano (Yano). As mentioned above, claims 2, 4, 6 and 9 have been canceled, without prejudice. As regards claims 1, 3, 5, 7, 8 and 10, these claims are not anticipated by Yano, for at least the following reasons.

Claims 1 and 10 relate to, inter alia, limiting the application of a braking force or pressure to a maximal value when the vehicle is at a standstill. As explained in the specification, a desired braking input is limited so as not to exceed a certain value in the case of a standstill so to reduce loads in an advantageous manner. Specification, page 3, lines 7-12.

The Office Action asserts that Yano discloses these features in Figures 9-12 and accompanying text (col. 10, lines 20-24 in particular) which purport to describe a second embodiment of a grade-holding brake system and method. However, as Yano more clearly and completely explains regarding this system and method on col. 11, lines 60-67, in this grade-holding system, “the pressure booster value 14 and the pressure booster pump 15 are provided as a pressure increasing means for increasing the pressure within each wheel cylinder 6 when the brake pedal is depressed and the vehicle is stopped, and the pressure within each wheel cylinder is set at a sufficient level to keep the vehicle stopped.” According to the above-quoted passage, Yano describes a process of ensuring that the brake pressure does not fall below a lower-limit threshold (i.e., a “sufficient level”) to keep the vehicle stopped, rather than a process of ensuring that the pressure does not exceed a maximal value (for reduce unnecessary loads) as claimed. Accordingly, Yano does not describe all of the features of claims 1 and 10.

For at least this reason, it is respectfully submitted that independent claim 1 its dependent claims 3 and 5-9, and independent claim 10 are not anticipated by Yano. Withdrawal of the rejection of the claims based on the Yano reference is, therefore, respectfully requested.

VI. CONCLUSION

Each of the issues raised by the Examiner have been addressed. It is respectfully submitted that all pending claims (1, 3, 5, 7, 8 and 10) are in condition for allowance. Passage to issuance is requested.

Respectfully Submitted,

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